Lab Assignment & Solution

Introduction to Python for Security

File System & Error Handling

**PY-04-LS8
Copying Files**

Lab Objective

Understand how to perform various operating system actions using Python.

Lab Mission

Practice working with the *OS* module.

Lab Duration

10–20 minutes

Requirements

- Basic knowledge of Python

Resources

- Environment & Tools
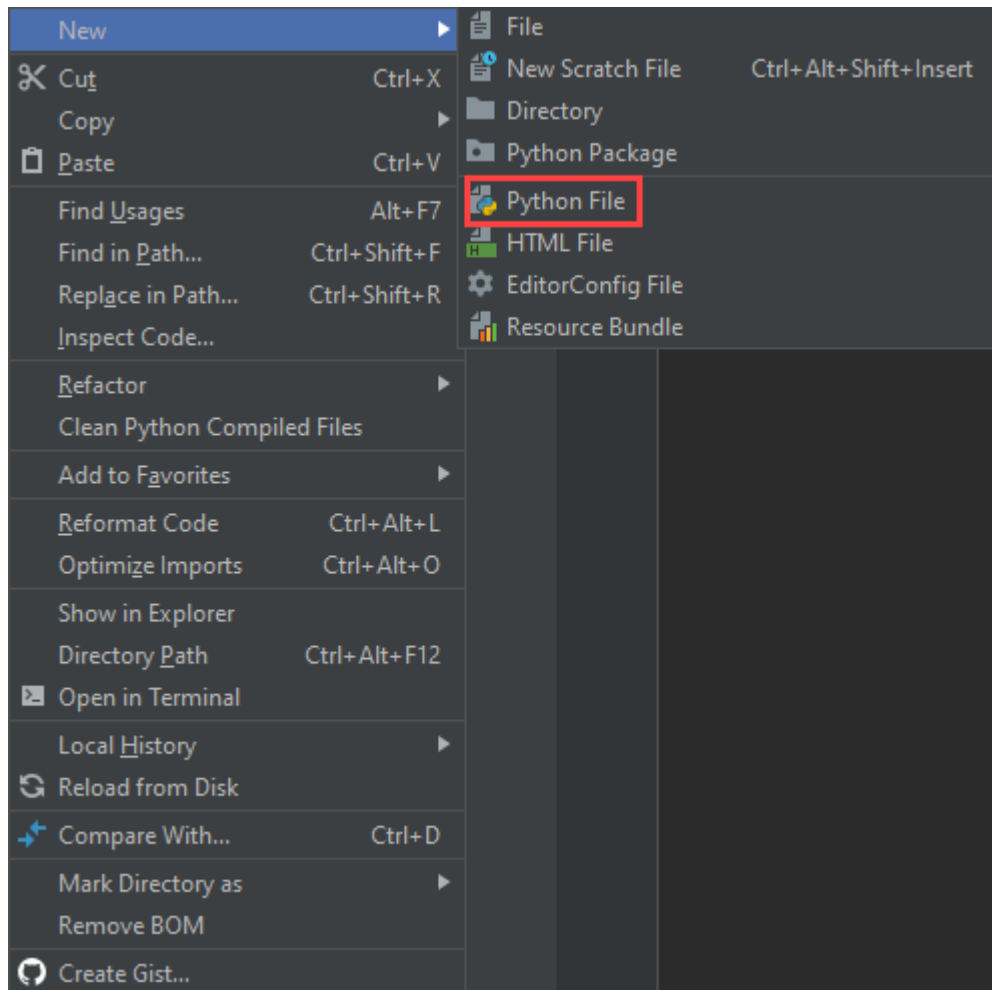 - Windows
    - PyCharm
    - Python 3

Textbook References

- Chapter 4: File System and Error Handling
  - Section 3: Module Definition and Usage

Lab Task: Copying Files

Write a Python script to copy a file in a directory and assign it a different file name.

1   Create a new Python file in PyCharm by right-clicking the project you created and selecting **New** → **Python File**.

2   Import the **OS** module.

```
import os
```

3   Create a new directory.

```
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
```

4 Create a file in the newly created directory.

```python
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+") as
file:
    pass
```

5 Ask the user to provide the file path to copy and assign it to a variable.

```python
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+") as
file:
    pass

path = input("Enter directory path: ")
```

6 Ask the user for a file name and assign it to a variable.

```python
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+") as
file:
    pass

path = input("Enter directory path: ")
file_name = input("Enter file name: ")
```

7   Ask the user for a name for the file and assign it to a variable.

```python
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+") as
file:
    pass


path = input("Enter directory path: ")
file_name = input("Enter file name: ")
new_name = input("Enter a new name: ")
```

8   Create a txt file to copy and use the system function from the *OS* module to execute the copy command.
Note: Make sure to use the appropriate command for your operating system and that your user has the appropriate permissions for the locations of the files.

```python
import os

os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+") as
file:
    pass

path = input("Enter directory path: ")
file_name = input("Enter file name: ")
new_name = input("Enter a new name: ")

os.system(r"copy {}\{} {}\{}".format(path, file_name, path,
new_name))
```

9 Place the create directory line in a *try* block to check if the directory exists before creating it.

```python
import os

try:
    os.mkdir(r"C:\Users\johnd\Downloads\Cars")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+")
as file:
    pass

path = input("Enter directory path: ")
file_name = input("Enter file name: ")
new_name = input("Enter a new name: ")

os.system(r"copy {}\{} {}\{}".format(path, file_name, path,
new_name))
```

10 If it exists, print a message informing the user that the directory already exists.

```python
import os

try:
    os.mkdir(r"C:\Users\johnd\Downloads\Cars")
except:
    print("This directory already exists")
with open(r"C:\Users\johnd\Downloads\Cars\Mustang.txt", "a+")
as file:
    pass

path = input("Enter directory path: ")
file_name = input("Enter file name: ")
new_name = input("Enter a new name: ")

os.system(r"copy {}\{} {}\{}".format(path, file_name, path,
new_name))
```